INSTALLATION PROCEDURES FOR PEEP BYPASS AND VALVE TO ABSORBER ASSEMBLY

INSTALLATION PROCEDURE A

NOTE: Installation Procedure **A** applies to machines built **after** November 1984.

For machines built **before** November 1984, proceed to Installation Procedure **B**.

1. Turn the System Power switch to STANDBY and remove AC power from the machine.

2. Disconnect the fresh gas hose from the common gas outlet.

3. Remove all absorber system accessories including:

   --Patient circuit Connections
   --Spiromed Sensor
   --Breathing Pressure Line
   --Oxygen Sensor
   --Inspiratory Valve

4. Open the absorber cam release lever and remove the canisters, dust cap, and top gasket.

5. Properly support the absorber assembly before removing its attaching screws.

6. Remove the four socket head screws holding the absorber top dome to the valve and gauge block assembly. A "cut down" 9/64 in. allen wrench is needed to gain access to certain mounting screws.

7. Disconnect the 22 mm hose from the Manual/Auto selector valve, and disconnect the 19 mm hose from the APL valve.

8. Remove the three screws holding the Manual/Auto selector valve to the valve and gauge block assembly, and remove the selector valve.

9. Loosen the set screw securing the valve and gauge block assembly to the absorber pole, and remove the assembly.

10. Place the PEEP bypass and valve assembly on the absorber pole and tighten the set screw.

11. Attach the Manual/Auto selector valve to the PEEP valve assembly using the three screws that were previously removed.

INSTALLATION PROCEDURE A (continued)

12. Attach the absorber top dome to the PEEP valve assembly using the four screws that were previously removed. Be sure that the o-ring is properly in place.

13. Connect the 22 mm hose to the Manual/Auto selector valve.

14. Connect the 19 mm hose to the APL valve.

15. Reinstall the absorber top gasket, canisters and dust cap. Close the absorber release lever and ensure that the canister gaskets seal evenly.

16. Reinstall all absorber accessories and connect the fresh gas hose to the common gas outlet.

17. Proceed to the PEEP Bypass and Valve Assembly Test.

INSTALLATION PROCEDURE B

NOTE: Installation Procedure **B** applies to machines built **before** November 1984.

CAUTION: Before proceeding further, verify the location of the ventilator relief valve. If the relief valve is located on the Manual/Auto selector assembly, refer to Service Procedure SP000032, Relocation of Relief Valve from Selector to Descending Bellows.

1. Turn the System Power switch to STANDBY and remove AC power from the machine.

2. Disconnect the fresh gas hose from the common gas outlet.

3. Remove all absorber system accessories including:
   --Patient circuit Connections
   --Spiromed Sensor
   --Breathing Pressure Line
   --Oxygen Sensor
   --Inspiratory Valve

4. Open the absorber cam release lever and remove the canisters, dust cap, and top gasket.

5. Remove the two E-ring clips from the absorber rods. See Figure 1.

6. Remove the two bottom hex nuts holding the cam bars to the absorber rods, and remove the cam bars and cam assembly.

7. Replace the two hex nuts on the absorber rods and tighten them against the top hex nuts.

8. Support the absorber bottom assembly, and unscrew the absorber rods from the top dome assembly by turning the top nuts with a 3/8 in. open end wrench.

NOTE: If the rod bushing unscrews from the top dome, carefully hold the bushing with a vise grip pliers or similar tool in order to remove the absorber rod from the bushing.

INSTALLATION PROCEDURE B (continued)

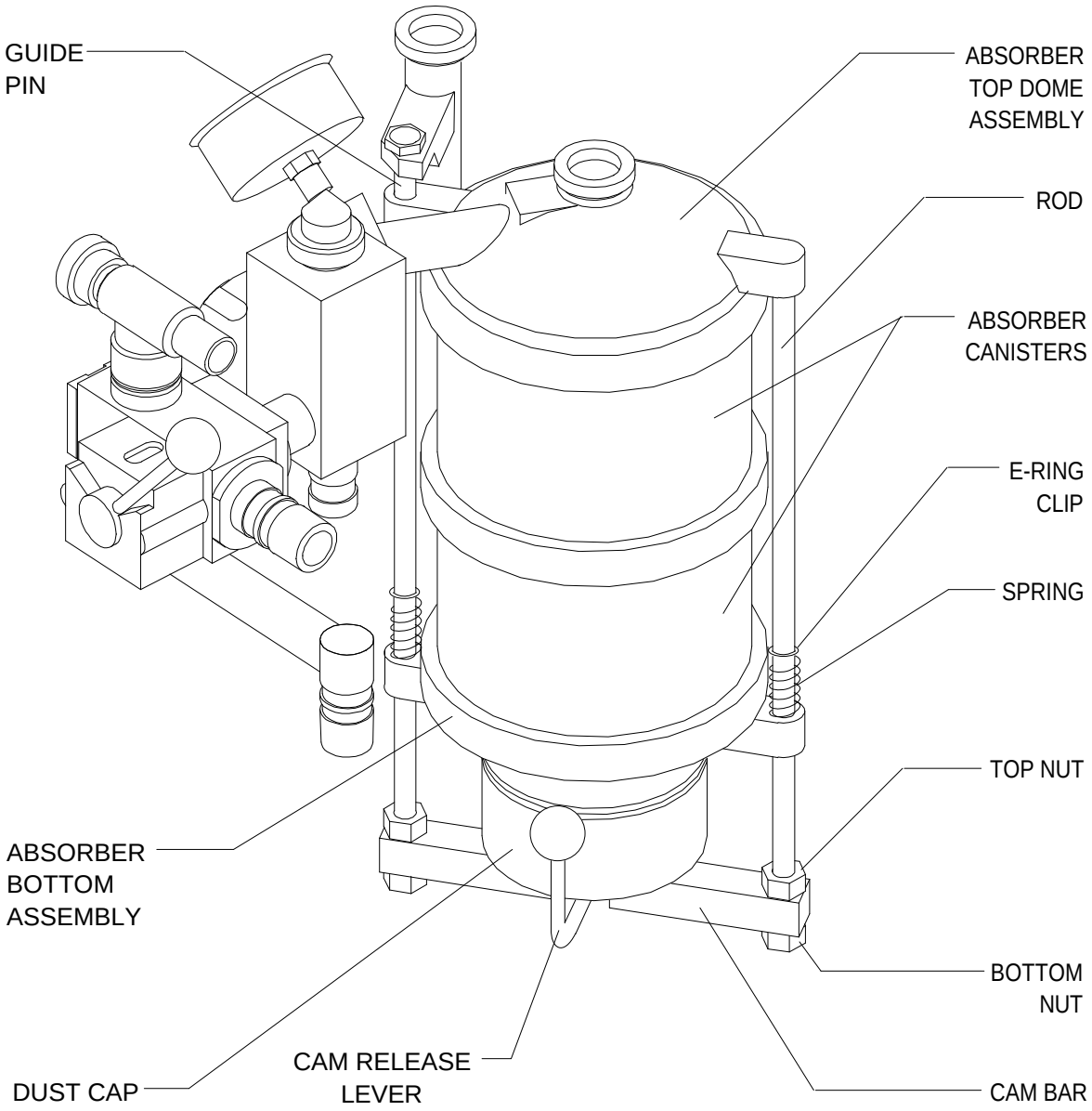

Figure 1: ABSORBER ASSEMBLY

INSTALLATION PROCEDURE B (continued)

9. Remove the rod springs and the rods from the absorber bottom assembly.

10. Remove the absorber bottom assembly by lifting its upper guide pin clear of the top dome assembly.

11. Remove the scavenger hose between the APL valve and the absorber pole.

12. Remove the APL valve from the Manual/Auto selector assembly by loosening its locking ring with a spanner wrench.

13. Remove the three screws holding the Manual/Auto selector valve assembly to the absorber mount.

14. Using a spanner wrench, remove the in-circuit adaptor from the top dome assembly.

15. Remove the female quick disconnect fitting from the in-circuit adaptor and clean any residual Loctite sealant from the threads.

16. Remove the waste gas hose between the scavenger interface and the bottom of the absorber pole.

17. Loosen the three set screws securing the elbow adaptor to the bottom of the absorber pole, and remove the adaptor.

18. Loosen and remove the set screw holding the absorber top dome assembly to the absorber pole, and remove the top dome assembly.

19. Remove the absorber pole from the swivel arm.

20. Place the new absorber pole in the swivel arm. Orient the pole so that its side scavenger port is pointing toward the swivel arm hinge.

21. Place the PEEP bypass and valve assembly on the absorber pole (see Figure 2) and secure it with the set screw that was previously removed.

22. Apply SCAVENGER HOSE labels to the bottom and the side scavenger ports on the absorber pole.

23. Connect a 30 in. long 19 mm hose between the bottom of the absorber pole and the scavenger interface.

24. Attach the Manual/Auto selector valve to the PEEP bypass and valve assembly using the three screws that were previously removed. See Figure 2.

25. Install a new APL valve on the Manual/Auto selector valve. Ensure that the fiber washer provided with the valve is placed between the selector valve block and the APL valve locking ring as shown in Figure 2. Tighten the locking ring with a spanner wrench.

26. Apply a SCAVENGER HOSE label to the scavenger port on the APL valve.

27. Connect a 10 in. long 19 mm hose between the APL valve and the side scavenger port on the absorber pole.

INSTALLATION PROCEDURE B (continued)

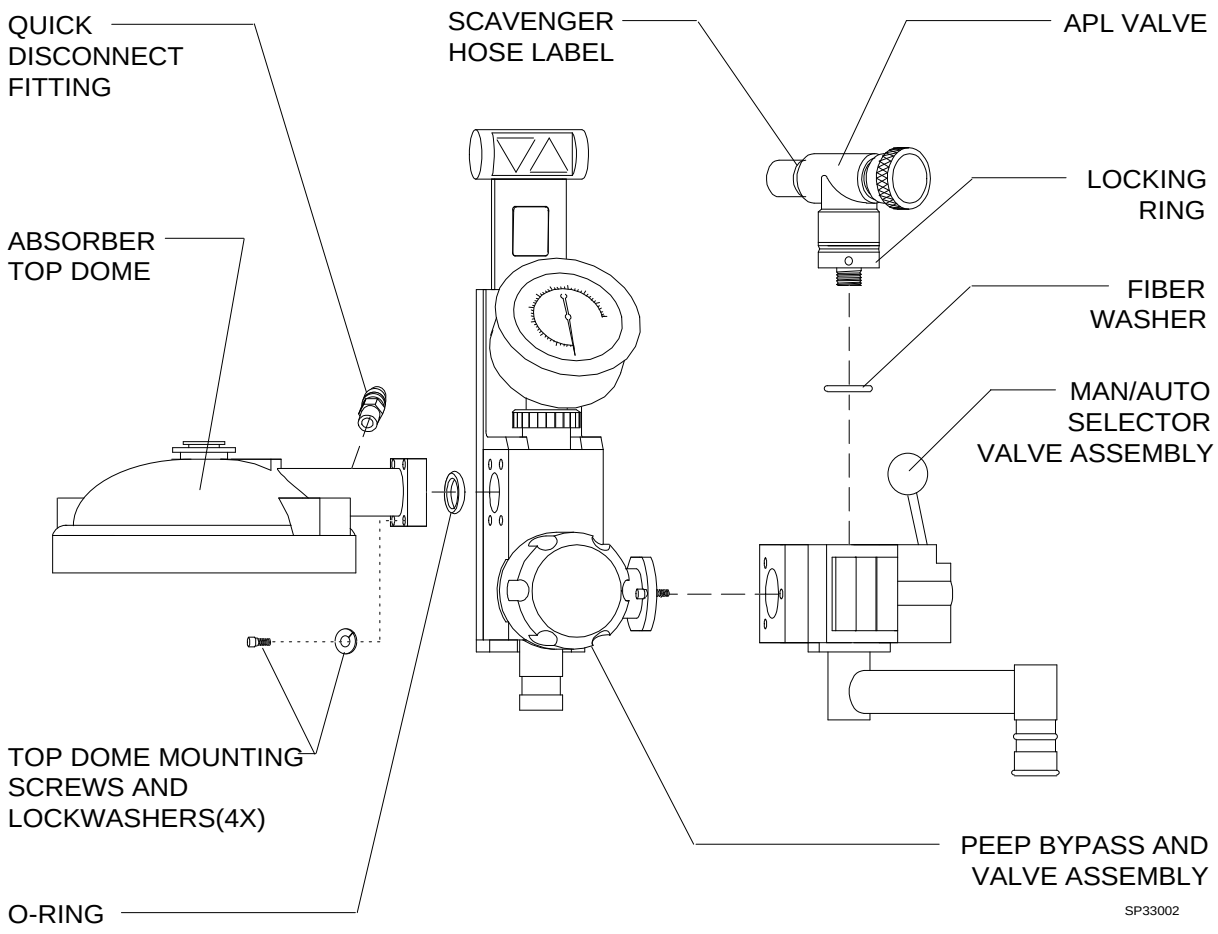

Figure 2: PEEP BYPASS AND VALVE ASSEMBLY

INSTALLATION PROCEDURE B (continued)

28. Install a new dome assembly to the PEEP bypass and valve assembly using four 8-32 ½ in. screws and four #8 split lock washers. Ensure that the silicone o-ring is properly in place. See Figure 2.

29. Install the absorber top gasket and screen into the top dome.

30. Install the female quick disconnect fitting (previously removed from the in-circuit adaptor) in the side of the tube on the top dome assembly. Use a small amount of Loctite #271 (red) on the threads of the fitting.

31. Thread the rod bushing into the absorber top dome. Hand tighten only.

32. Install the absorber bottom assembly, placing its guide pin into the guide bushing on the top dome assembly.

33. Slide the absorber rods through the bottom assembly. Note that the shorter of the two rods will be threaded into the guide pin bushing. Place the springs on the rods, and thread the rods into the top dome assembly.

34. Unlock the top and bottom hex nuts on each absorber rod, and remove the bottom hex nuts.

35. Reinstall the cam bars and cam assembly on the absorber rods, and replace the bottom hex nuts. Ensure that the cam operating lever is facing the rear of the absorber system.

36. Reinstall the E-ring clips on the absorber rods.

37. Reinstall the dust cap and canister in the absorber. Adjust the hex nuts on the absorber rods so that the canisters seal evenly when the cam release lever is locked in place.

38. Replace all absorber system accessories and connect the fresh gas hose to the common gas outlet.

39. Proceed to the PEEP Bypass and Valve Assembly test.

PEEP BYPASS AND VALVE ASSEMBLY TEST

Absorber System Leak Test

1. Short circuit the inspiratory and expiratory valves with a 12 in. length of hose.
2. Connect a test terminal with a cuff inflation bulb to the bag mount.
3. Set the Manual/Auto selector valve to the BAG position.
4. Close the APL valve.
5. Set the PEEP bypass to ON, and turn the PEEP valve fully counter-clockwise.
6. Pressurize the absorber system to 50 cm H_2O.
7. Rotate the PEEP valve fully clockwise, the return it to the full counter-clockwise position.
8. The pressure indicated on the absorber system pressure gauge must not drop below 30 cm H_2O after 30 seconds.

PEEP Bypass and Valve Assembly Test

9. Open the APL valve.
10. Turn the System Power switch to ON.
11. Set the oxygen flow rate to 10 L/min.
12. The absorber system pressure gauge must not exceed 3 cm H_2O.
13. Set the oxygen flow rate to 5 L/min.
14. Turn the PEEP valve fully clockwise.
15. The absorber system pressure gauge must indicate between 15 and 18 cm H_2O.
16. Set the PEEP bypass to OFF, and set the oxygen flow rate to 10 L/min.
17. The absorber system pressure gauge must not exceed 3 cm H_2O.
18. Set the PEEP bypass to ON.
19. PEEP indicated on absorber system pressure gauge should be continuously adjustable from 3 to ≥15 cm H_2O.
20. Set the PEEP valve for a pressure indication of 15 cm H_2O.
21. Switch the PEEP bypass to OFF, then return it to ON. The pressure gauge must return to a reading of 15 ±2 cm H_2O.
22. Repeat Step 20. The pressure gauge must return to its previous reading ±2 cm H_2O.
23. Set the PEEP valve for a pressure indication of 10 cm H_2O.
24. Switch the PEEP bypass to OFF, then return it to ON. The pressure gauge must return to a reading of 10 ±2 cm H_2O.
25. Repeat Step 23. The pressure gauge must return to its previous reading ±2 cm H_2O.
26. Set the PEEP valve for a pressure indication of 6 cm H_2O.

PEEP BYPASS AND VALVE ASSEMBLY TEST (continued)

27. Switch the PEEP bypass to OFF, then return it to ON. The pressure gauge must return to a reading of 6 ±2 cm H_2O.

28. Repeat Step 26. The pressure gauge must return to its previous reading ±2 cm H_2O.

29. Turn the PEEP valve fully counter-clockwise and close the oxygen flow control valve.

30. Perform a complete PMS procedure on the machine.

NOTE: The following additional items are required for machines manufactured before November 1984:

Absorber Dome	1101351
Absorber Pole	1101724
APL Valve	4104839
19 mm Hose, 10 in. long	9995219
19 mm Hose, 30 in. long	9995230
Bushing, Guide Pin	1101023
Label, SCAVENGER HOSE (3x)	4104806
Screw, Socket Hd, 8-32 x 7/16 in. (4x)	HW01013
O-Ring, #117, Silicone	4105766

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